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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,593	11/24/2003	Bradley C. Aldrich	10559-186002	5807
20985	7590	06/23/2005	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			REKSTAD, ERICK J	
			ART UNIT	PAPER NUMBER

2613

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/721,593	ALDRICH ET AL.	
	Examiner	Art Unit	
	Erick Rekstad	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 42 and 43 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 29, 36 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a Final Rejection for application no. 10/721,593 in response to the amendment filed on March 1, 2005 in which claims 24-49 are presented for examination.

Response to Arguments

Applicant's arguments filed March 1, 2005 have been fully considered but they are not persuasive.

In regards to the applicants arguments related to claims 24 and 34, the applicant argues that the combination of Gardyne and Matsumoto does not teach nor suggest " a mode switch element, which configures each of said image manipulating devices to determine an entire calculation in a first mode, and configures each of said image manipulating devices to determine only a portion of an entire calculation in a second mode." Gardyne shows in Figure 7 a device (SAE Slice) which has two modes. In the frame mode, the SAE Slice device performs an entire calculation where in the add_pass adds the abs_call together. In the field mode, the SAE Slice device performs a partial calculation where in the add_pass only passes one of the abs_call values. This is clearly shown in the citation noted by the applicant (Col 16, Lines 12-14). Gardyne further teaches that in field mode a partial block (8X4) is used instead of the (8X8) blocks used in the frame mode (Col 16 Lines 55-62). The fact that the SAE Slice device performs a complete calculation (Frame Mode) and a partial calculation of the Frame mode (Field Mode) is viewed as satisfying the requirements of claim 24.

Further, as noted in the previous Office Action, Gardyne is silent on the use of a switch. Matsumoto satisfies the requirement for the switch as shown below in the rejection for claim 24.

In regards to the arguments related to claim 26, the applicant argues that Gardyne and Matsumoto do not teach that " each SAD receives a different block and source section, and calculates a difference between the whole block and the whole source." The applicant further states the argument for claim 24 as the reason that Gardyne and Matsumoto are void of the teachings of the claim. As shown above, Gardyne and Matsumoto satisfy the requirements of claim 24. Further, Gardyne teaches the SAE slice devices performs the calculations on a block, wherein the block is eight vertical pixels (Col 13 Lines 18-36).

The Applicant's arguments related to claims 25-33, 35-41, 44-49 depend on the arguments for 24 and 34 and therefore are not persuasive for the reasoning given above.

Applicant's arguments with respect to claims 42 and 43 have been fully considered and are persuasive. The rejection of claims 42 and 43 has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 24-26, 28, 29, 31, 32, 44-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,973,742 to Gardyne et al in view of US Patent 6,263,024 to Matsumoto.

[claims 24 and 44]

As shown in Figure 1, Gardyne teaches a system for performing video compression including a motion estimation system using a general purpose computer (60) (Col 7 Lines 8-11, 19-20 and 33-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a laptop as the general purpose computer in order to provide a more portable system (Official Notice). As shown in Figure 6, Gardyne teaches the use of a plurality of SAE Slices (312) each operating to determine similarities between two image parts obtained from said video acquiring part (Col 12 Lines 44-46, Col 13 Lines 37-45, Col 15 Lines 39-52, Figs 7 and 8). Gardyne further teaches the selection of two modes (frame and field) (Col 14 Lines 10-19). Gardyne further teaches the selection of the mode based on a control signal (fi_fr). Gardyne does not specifically teach the use of a switch in order to select the mode. Matsumoto shows in Figure 4 the use of a switch (142) to select the different modes of operation. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system of Gardyne with the switch of Matsumoto in order to switch between the different modes of operation.

[claims 25 and 45]

Gardyne teaches the image manipulating devices are sum of absolute difference devices. It would have been obvious to one of ordinary skill in the art at the time of the

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invention to use the sum of absolute difference devices in order to provide an efficient motion estimation means for either frame mode or field mode as taught by Gardyne.

(Col 4 Line 60-Col 5 Line 9, Col 6 Lines 14-20, Col 12 Lines 44-46, Col 13 Lines 37-45, Col 15 Lines 39-52, Figs. 7 and 8).

[claims 26, 28, 31, and 46]

Gardyne teaches the first mode (frame) performing the image manipulating on a whole block, wherein the block is eight vertical pixels (Col 13 Lines 18-36). Gardyne further teaches the second mode (field) performing the image manipulating on half of a block (Col 13 Lines 18-28, Col 16 Lines 55-62). In regards to claim 31, the unit is interpreted to mean the device.

[claim 27]

Gardyne further teaches the SAE Array (302) can be used for block size of 16X16 (Col 13 Lines 18-28). Note that the SAE Array is made up of the SAE Slices, therefore the SAE Slices work on a 16 by 16 block.

[claims 30 and 32]

Matsumoto further teaches a logic unit (141) for detecting which of the modes will produce a desired result (most efficient encoding) and configures a calculation to said mode (Col 2 Lines 3-12, Col 8 Lines 2-31, Fig. 4).

[claims 47-49]

As shown above for claims 24, 25 and 26, Gardyne and Matsumoto teach a general purpose computer using a video encoder. Gardyne further teaches the video encoder is for mpeg encoding. Gardyne further teaches mpeg is used for HDTV video

(Col 2 Lines 6-13, Col 3 Lines 11-19, Col 4 Lines 49-59). Gardyne further teaches the system combined with a set top box (Col 8 Lines 30-35). As shown in Figure 2, Gardyne teaches the system contains an mpeg decoder (74), which is used to display the video on a display device (Col 9 Line 65-Col 10 Line 3). It would have been obvious to one of ordinary skill in the art at the time of the invention that the system of Gardyne containing a set top box, an mpeg decoder and a general purpose computer would be a high definition television system as mpeg is used for High Definition video.

Claims 33-35, 37, 38, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gardyne and Matsumoto as applied to claim 24 above, and further in view of US Patent 6,177,950 to Robb.

[claim 33]

Gardyne and Matsumoto teach the system of claim 24 as shown above. Gardyne further teaches a coding processor (76) connected to the bus of the system (Col 7 Lines 33-44, Fig. 3). Matsumoto teaches the use of a switching of the modes for efficient encoding of video (Col 2 Lines 3-12, Col 8 Lines 2-31, Fig. 4). Gardyne does not teach the system contained in a cellular telephone. Matsumoto does not teach the system contained in a cellular telephone.

As shown in Figures 1A-1B, Robb teaches a cellular phone device containing a camera (2) (Abstract, Col 5 Lines 32-47). Figures 3A-3B further teach the phone containing a general purpose microprocessor (41) connected to a codec (50) for coding video (Col 7 Lines 18-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the personal communication device of Robb with

the encoding system of Gardyne and Matsumoto in order to provide an efficient encoding system for a general purpose computer.

[claims 34, 35, 37, 38, 40, 42 and 43]

As shown above for claims 24 and 32, Gardyne and Matsumoto teach the plurality of sum of absolute difference devices and a calculation partitioning element, wherein the element is a switching element. Further, Gardyne teaches the SAE Slice performs a distortion calculation for the video parts (Frame mode) or performs a distortion calculation for part of the video parts (Field Mode) (Col 12 Lines 44-46, Col 13 Lines 37-45, Col 14 Lines 10-19, Col 15 Lines 39-52, Figs 7 and 8). Gardyne and Matsumoto do not teach the use of the coding system in a camera. As shown above for claim 33, Robb teaches the use of a coding system and camera (2) within a cellular phone (20) (Fig. 1A). It would have been obvious to one of ordinary skill in the art at the time of the invention that the device of Robb is a camera containing a video coder.

[claim 41]

Robb further teaches the use of the device as a videoconferencing unit (Col 1 Lines 4-12).

Allowable Subject Matter

Claims 42 and 43 allowed.

Claims 29, 36, and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

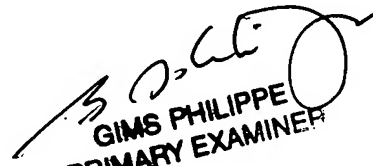
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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